

Date: Wednesday, 1/24/2007 4:43:17 PM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 212/205 HIGH FED X-TUBE ASSEMBLY  
 Job Number : 30418  
 Estimate Number : 10254  
 P.O. Number :  
 This Issue : 1/24/2007 S.O. No. :  
 Prsht Rev. : NC Part Number : D212664101  
 First Issue : 1/1 Type : LANDING GEAR Drawing Number : D212-664-141 REV B  
 Previous Run : 30417 Drawing Revision :  
 Material :  
 Due Date : 2/28/2007 Qty: 1 Um: Each  
 Written By :  
 Checked & Approved By :  
 Comment : Est Rev:E 04.02.16 Reformat KJ/DS  
 Est Rev:F 06-03-29 Remove Comments on Pick List JLM

## Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-101CHG0003

Magna

2.0

D6005128

Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6005-128 Crosstube 26549

Check OD = 2.750"; ID = 2.000"

BG 07.01.28

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA113

2-Turn first side as per Folio FA113

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141.

BG 07.01.28

4.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

BG 07.01.28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 1/24/2007 4:43:17 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 30418

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA113

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141.

BG 07.01.28

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

BG 07.01.28

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SA 07.01.28

8.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Remove sand and plugs

2-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

BG 07.01.28

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Polish entire outside surface of crosstube

Pm/R 07-01-31

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DP 7-1-31

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

DP/R 07-01-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 1/24/2007 4:43:18 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 30418

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description:

12.0  
13.0

QC15

DIMENSIONAL CHECK OF X-TUBES



7-2-20 @



Comment: DIMENSIONAL CHECK OF X-TUBES

13.0  
12.0

BENDING

BENDING MACHINE



EL/DP.

Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio FT015

7-2-6

14.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549

2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

25  
07-03-01  
DP 7-3-2

15.0

HAND FINISHING 1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

\* Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

16.0

QC5

INSPECT WORK TO CURRENT STEP



7-05-04 @  
LPI



Comment: INSPECT WORK TO CURRENT STEP

17.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 3700

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

C 70710510 410

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

7/5/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 1/24/2007 4:43:18 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 30418

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D212-664-141

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

} 2T 07-05-29

21.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

22.0

D2856600

Abrasion Strip



Comment: Qty.: 0.7090 f(s)/Unit Total : 0.7090 f(s)

Pick:

Qty Part number Description Batch

2 D2856-600-851 Abrasion Strip

1114 magnabond  
m 103628  
2T 07-06-05

23.0

D28931

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2893-1

Support

29524

2T 07-06-05

24.0

MS2192024

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-24

Clamp

M101810

2T 07-06-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Date: Wednesday, 1/24/2007 4:43:18 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 30418

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8581

2-Install supports and clamps as per Dwg D212-664-141. Torque clamps to 80-100 in lb.

*used Reel  
RT 070605*

*RT  
07-06-05*

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*070606 (U)*

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

28.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

PLACARD

Batch: *B26249 X*

29.0

AN635A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: *M103446 X*

30.0

AN636A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: *M102929 IX*

31.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch: *M103641 X*

*07/06/07 (U)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 1/24/2007 4:43:18 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 30418

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total: 6.0000 Each(s)

Nut

Batch: M101660 X

07/06/07

33.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

07/07/07

34.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-101

NEVC

07/07/07

35.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07.06.07

Job Completion



07.06.07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 30418
<b>Description:</b> Crosstube Assembly (205/212/412 High Fwd)	<b>Part Number:</b> D212-664-141
<b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

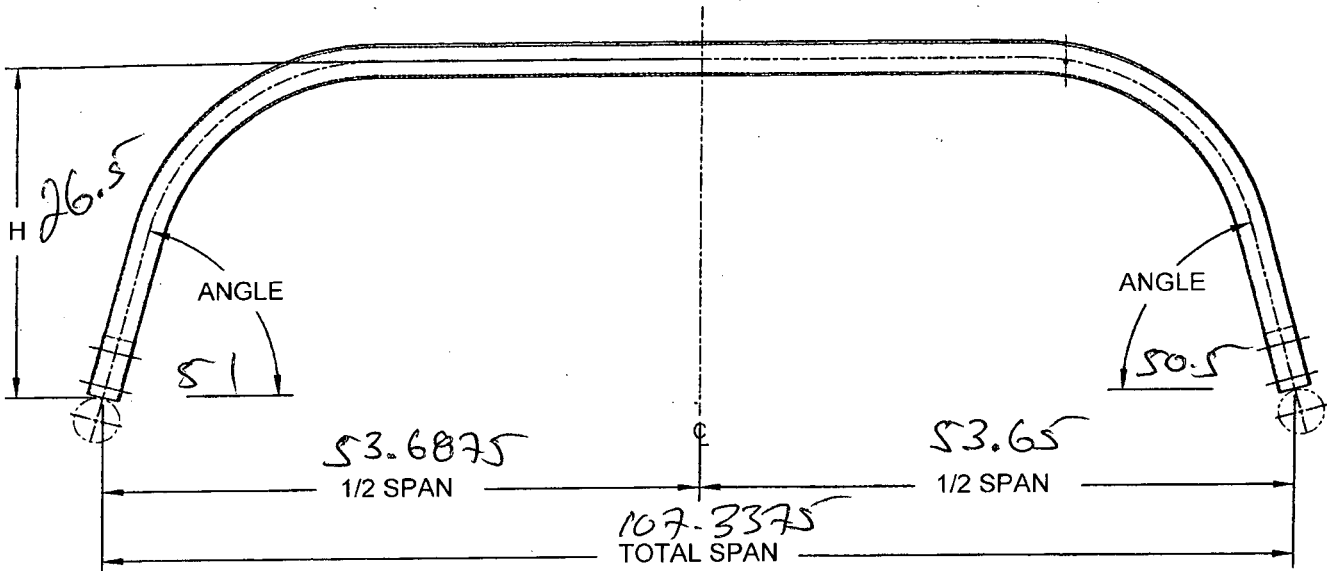
☒ First Article
 ☐ Prototype

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	0.063	✓			
	2.740	+0.005/-0.000	2.7411	✓			
	5.097	+/-0.030	5.097	✓			
	2.304	+0.005/-0.000	2.309	✓			
	2.340	+0.005/-0.000	2.344	✓			
	2.398	+0.005/-0.000	2.401	✓			
	2.448	+0.005/-0.000	2.452	✓			
	2.498	+0.005/-0.000	2.502	✓			
	2.549	+0.005/-0.000	2.552	✓			
	2.599	+0.005/-0.000	2.601	✓			
	2.671	+0.005/-0.000	2.674	✓			
	2.701	+0.005/-0.000	2.703	✓			
SIDE B	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	0.063	✓			
	2.740	+0.005/-0.000	2.7412	✓			
	5.097	+/-0.030	5.097	✓			
	2.304	+0.005/-0.000	2.309	✓			
	2.340	+0.005/-0.000	2.344	✓			
	2.398	+0.005/-0.000	2.4	✓			
	2.448	+0.005/-0.000	2.452	✓			
	2.498	+0.005/-0.000	2.502	✓			
	2.549	+0.005/-0.000	2.552	✓			
	2.599	+0.005/-0.000	2.603	✓			
	2.671	+0.005/-0.000	2.674	✓			
	2.701	+0.005/-0.000	2.704	✓			
	126.51	+/-0.020	126.51	✓			

<b>Measured by:</b> BG	<b>Audited by:</b> SA	<b>Prototype Approval:</b> N/A
<b>Date:</b> 07.01.28	<b>Date:</b> 07.01.29	<b>Date:</b> N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	

# Crosstube Bend Dimension Sheet



Tube short on height.  
fits very well at bottoms  
out in the table top

PART NUMBER: 212-664-101

BATCH NUMBER: 30418

DRAWING: 141 REVISION: B

H: 26.92

1/2 SPAN: 53.72

TOTAL SPAN: 104.77

ANGLE: 50

QC 15: 7

DATE: 07-02-28

QTY: 1



DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D212-664-141	REV. B SHEET 1 OF 3
DATE 05.02.04		TITLE XTUBE ASS'Y (205/212/412 HI FWD) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05-06-09

Qty	Part Number	Description
X	D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
1	D6005-128	CROSSTUBE
2	D2893-1	SUPPORT
2	D2856-600-851	ABRASION STRIP
4	MS21920-24	CLAMP

#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH = 126.51±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 9) INSTALL D2856-600-851 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2893-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

Rev. C

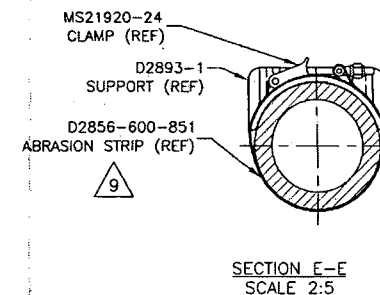
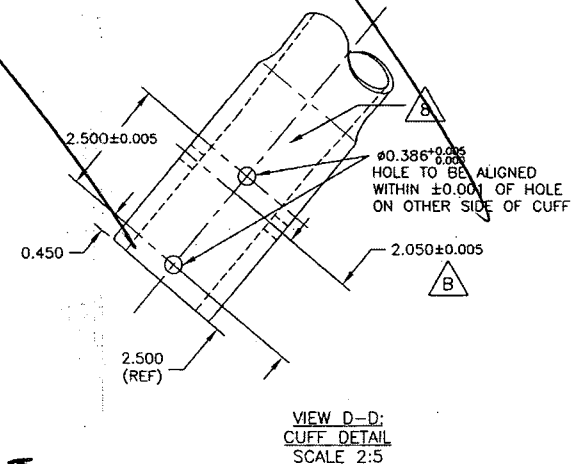
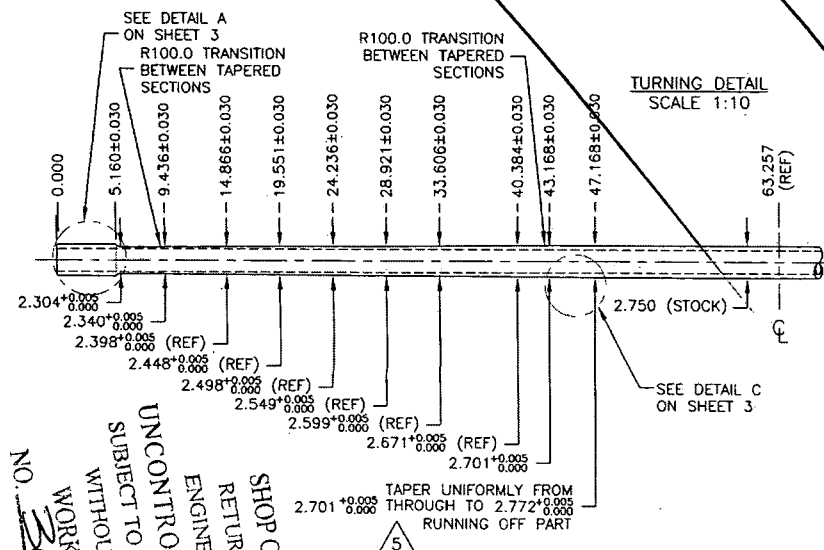
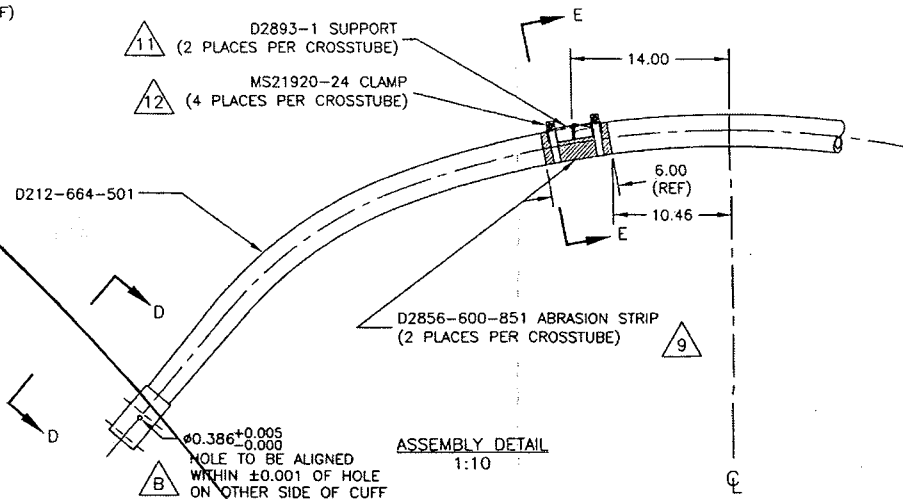
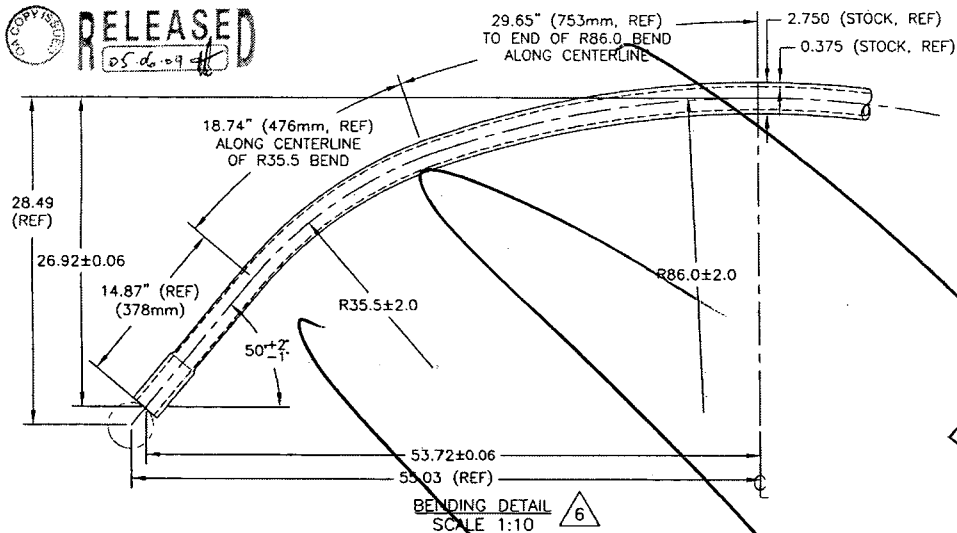
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 30418

Copyright © 2000 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.




RELEASED  
DS 6-9-88



NO. 30418  
WORK ORDER  
SUBJECT TO ANENDMENT  
WITHOUT NOTICE  
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY  
RETURN TO

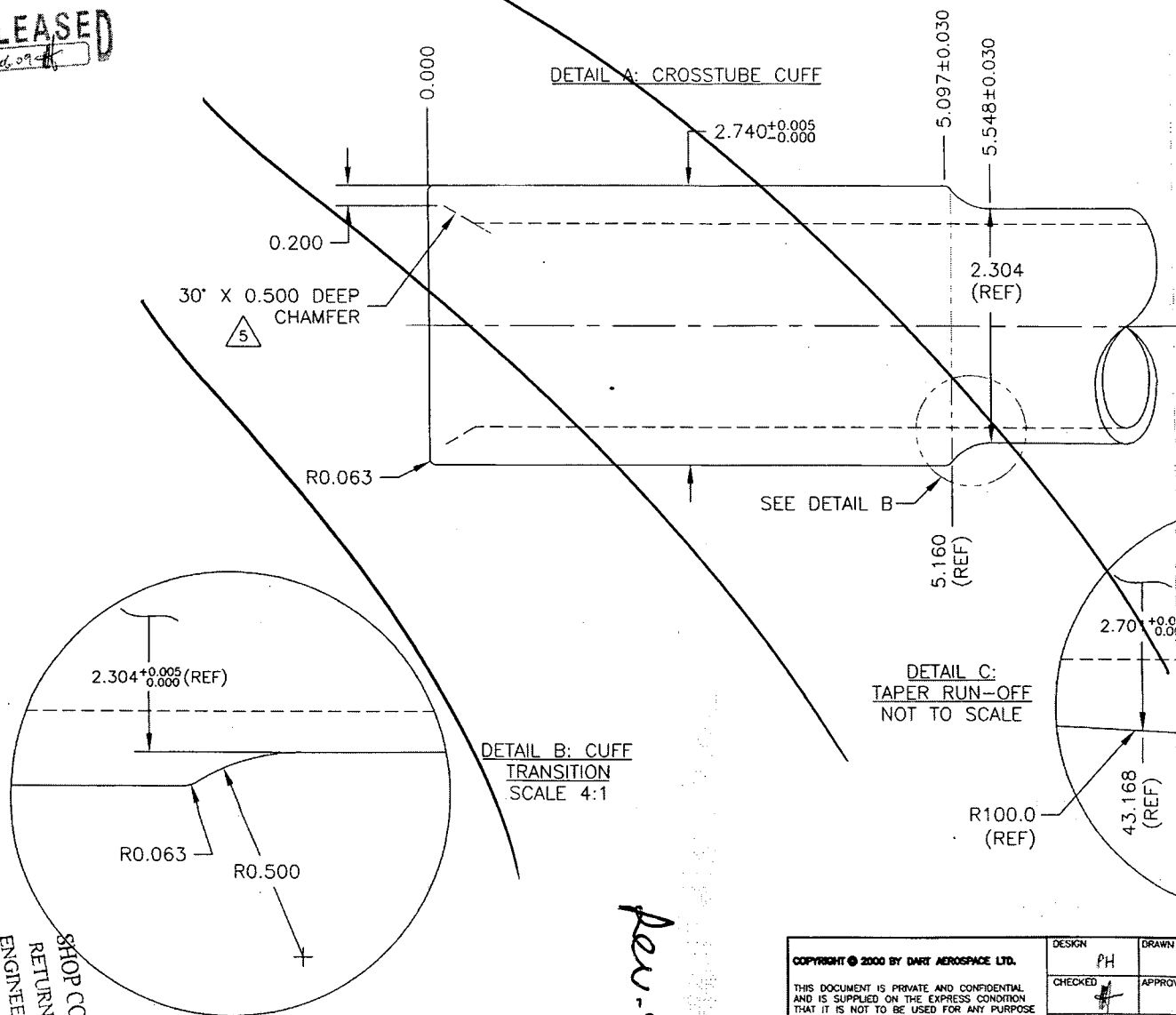
Rev. C

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN	PH	DRAWN BY	PH	 DART AEROSPACE LTD. HAMMERSBURY, ONTARIO, CANADA	REV. B
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	#	APPROVED	#		
DATE		05.02.04		TITLE		XTUBE ASS'Y (205/212/412 HI FWD)	SCALE





RELEASED  
05-09-04



NO. 20418

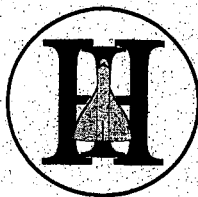
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY

per C.

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED #	APPROVED #	
DATE 05.02.04		TITLE XTUBE ASS'Y (205/212/412 HI FWD) 1:1		

REV. B  
SHEET 3 OF 3  
SCALE





# HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3  
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 36318

A.M.O. Number: 46/90

## NON-DESTRUCTIVE TESTING REPORT

### AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

### INSPECTION REQUIREMENTS

Carry out FPI of (8) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (4) P/N D212-664-201 S/N's B31363, B31359, B30422 & B31362.

Qty (4) P/N D212-664-101 S/N's B30418, B30416, B30194 & B30193.

☐ RADIOGRAPHY

☐ ULTRASONIC

☒ PENETRANT

☐ MAGNETIC PARTICLE

☐ EDDY CURRENT

### INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on (8) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)  
Ardrox 970P25E Batch #04B503.

(8) cross tubes PASSED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH  
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY:

  
S. FLETCHER

DATE May 8, 2007

INSPECTION  
STAMP(S)

Not Required

### CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER

00003700

ADDRESS:

CONTACT NAME:

LABOUR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

INVOICE NO.

TOTAL \$

Date: Wednesday, 1/24/2007 4:43:17 PM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 212/205 HIGH FED X-TUBE ASSEMBLY  
 Job Number : 30418  
 Estimate Number : 10254  
 P.O. Number :  
 This Issue : 1/24/2007 S.O. No. :  
 Prsht Rev. : NC Part Number : D212664101  
 First Issue : / / Type : LANDING GEAR Drawing Number : D212-664-141 REV B  
 Previous Run : 30417 Drawing Revision : B  
 Material :  
 Due Date : 2/28/2007 Qty: 1 Um: Each  
 Written By :  
 Checked & Approved By :  
 Comment : Est Rev:E 04.02.16 Reformat KJ/DS  
 Est Rev:F 06-03-29 Remove Coments on Pick List JLM

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-101CHG002

07.05.04 07.07.08

2.0 D6005128 Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6005-128 Crosstube

Check OD = 2.750"; ID = 2.000"

3.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113

2-Turn first side as per Folio FA113

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141.

4.0 QC1 INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

REFERENCE ONLY

**DART**

DESIGN <b>PH</b>	DRAWN BY <b>PH</b>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <b>GP</b>	APPROVED <b>[Signature]</b>	DRAWING NO. D212-664-141	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE XTUBE ASS'Y (205/212/412 HI FWD)	SCALE NTS
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

**RELEASED**07.04.24 **[Signature]**

Qty	Part Number	Description
X	D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
1	D6005-128	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP (OR MS21920-26)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH =  $126.51 \pm 0.020$
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

~~REFERENCE ONLY~~

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SMOOTH AMENDMENT

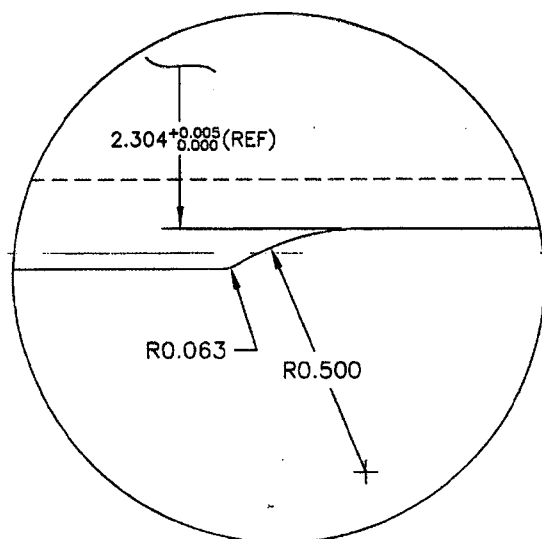
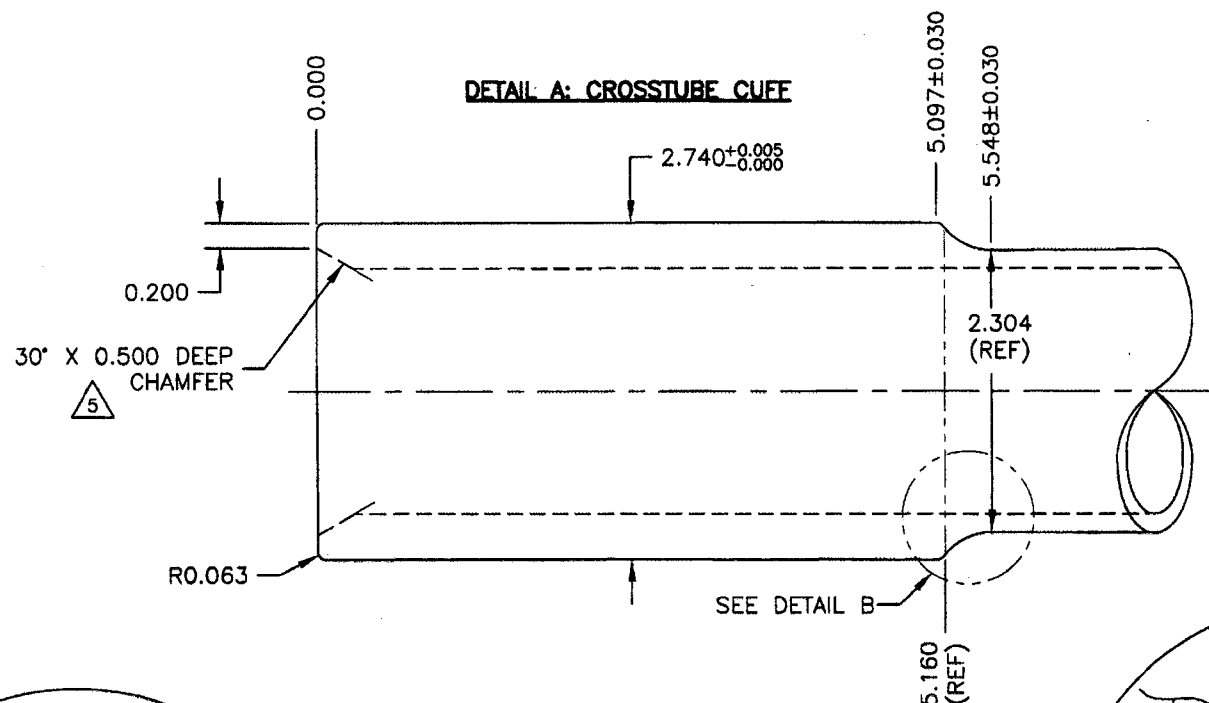
WORK ORDER

NO. 1330418**Copyright © 2000 by DART AEROSPACE LTD**

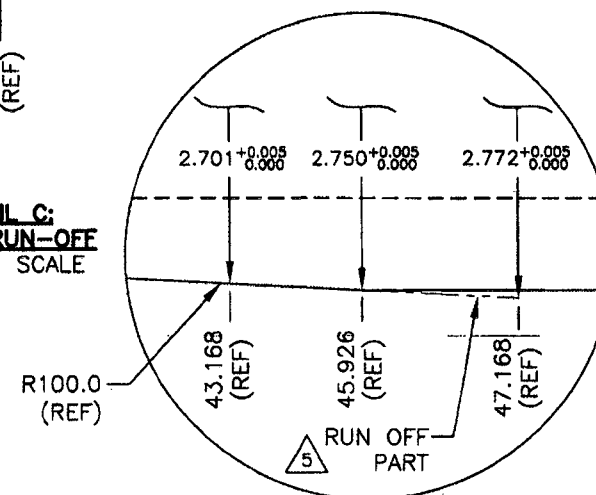
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**RELEASED**  
87.04.24 (P)  
PER CLN 883

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. **130418**

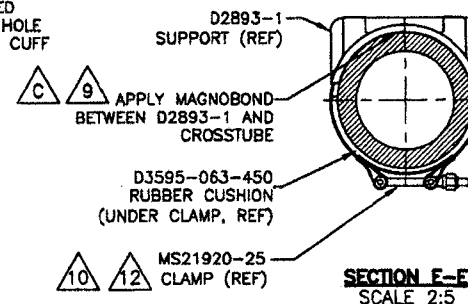
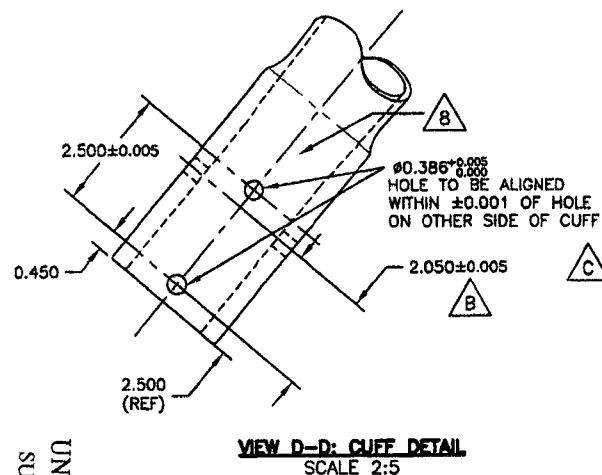
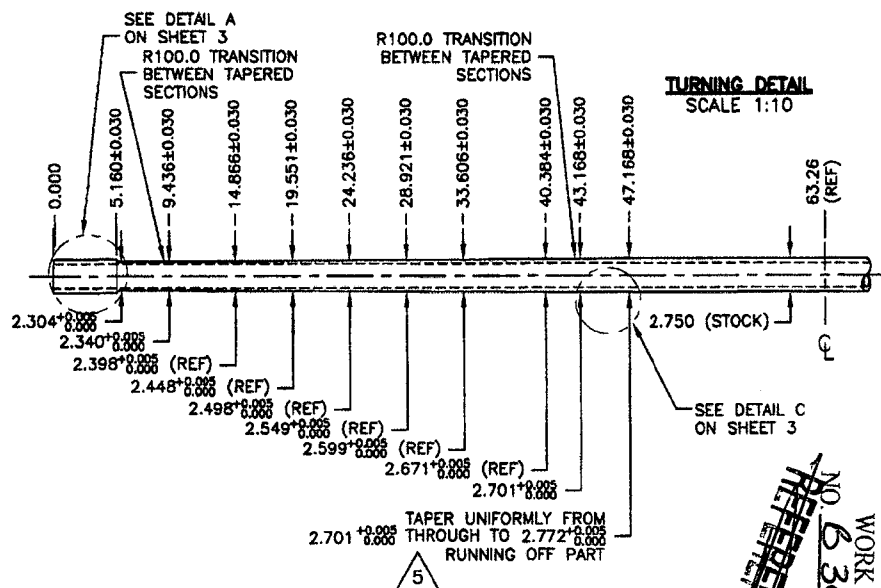
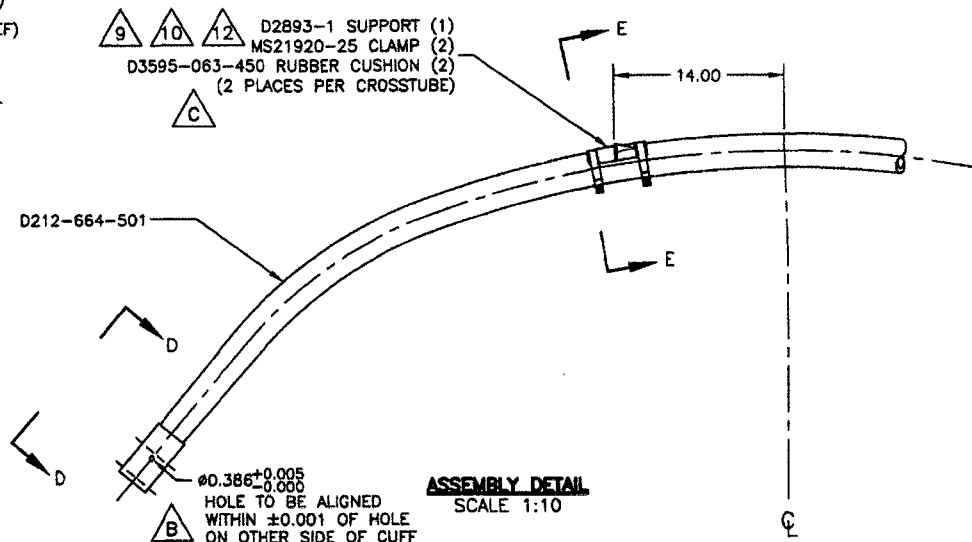
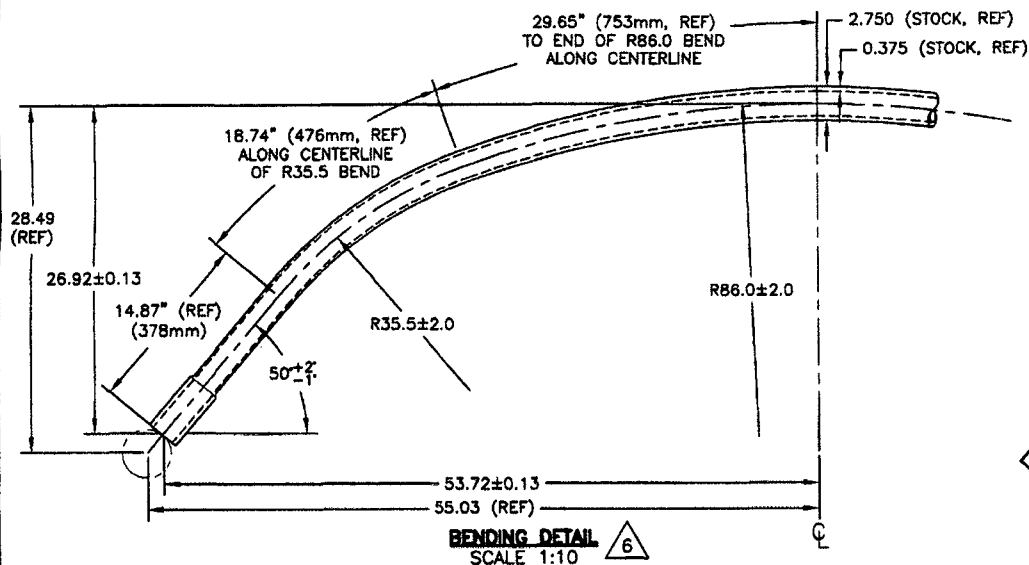


**DETAIL C:  
TAPER RUN-OFF**  
NOT TO SCALE



**REFERENCE ONLY**

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA	REV. C
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED J	APPROVED [Signature]		DRAWING NO. D212-664-141
DATE 07.03.08		TITLE XTUBE ASS'Y (205/212/412 HI FWD)			SCALE 1:1



RELEASED

on 04.24

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO 630418  
REFERENCE ONLY

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN	PH	DRAWN BY	PH	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	92	APPROVED	4	DRAWING NO.	D212-664-141
		DATE	07.03.08	TITLE		XTUBE ASS'Y (205/212/412 HI FWD)	1:10

REV. C  
SHEET 2 OF 3